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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

BRAHAN, THOMAS J

ART UNIT	PAPER NUMBER
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3652

DATE MAILED: 02/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/048,012

Applicant(s)

SAEKI ET AL.

Examiner

Thomas J. Brahan

Art Unit

3652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6, 7 and 9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 7 and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 3652

1. The following is a quotation of the second paragraph of 35 U.S.C. § 112:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which applicant regards as his invention.
2. Claims 1-4, 6, 7 and 9 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
 - a. The preamble to claim 1 is not understood. It is unclear as to how the applicant is using the limitation "while taking the object, which is not yet processed, out of a processed-object carrier which is provided on the top face of a load port unit and transfer the object, which is already processed, to the processed object carrier". Is this attempting to claim that the apparatus takes out one object from the carrier at the same time it returns another to the carrier? It is also unclear as to how the carrier is considered as a processed-object carrier, if it contains the unprocessed objects. Is this attempting to claim that the wafers are returned to the same carrier from which they started? This limitation appears to be drawn to a method of using the device which is not specifically correlated with the structure of the device which is recited in the body of the claim.
 - b. In claim 1, line 2, the limitation "which is not yet processed" is inaccurate. The object being transferred is disclosed in the specification as being a wafer. A wafer, by definition, is processed. They are not found in nature as wafers, they are cut from ingots and are polished and otherwise processed.
 - c. In claim 1, lines 13 and 14, it is unclear as to how the linear motor is considered as mounted in vertical directions.
 - d. In claim 9, line 8, the term "said load port" lacks antecedent basis within the claim.
 - e. In claim 9, line 9, the term "said first wall" lacks antecedent basis within the claim.
3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:
A person shall be entitled to a patent unless --
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 3652

4. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. § 102(f) or (g) prior art under 35 U.S.C. § 103.

5. Claims 1 and 7, as best understood, are rejected under 35 U.S.C. § 102(b) as being anticipated by WO 98/19333 (see also English equivalent US 6,230,721). WO '333 shows a transfer system which takes objects from an object carrier (4) which is provided on the top surface of a load port unit, the object transfer system comprising:

a system body (1b);

a linear motor (45) which is provided to extend in lateral directions of the system body (1b; note that the term lateral can apply to any horizontal direction as the claim fails to differentiate between lateral and longitudinal directions); and

a processed-object transfer robot (41) which is mounted on a primary or secondary side of the linear motor (45) and which is capable of linearly reciprocating in the longitudinal directions of the linear motor (45);

wherein the load port unit is mounted on the outside of a front wall of system body (1b; note that the term front wall can apply to any vertical wall of the system body as the claim fails to differentiate between front and side walls) and the linear motor (45) is mounted in vertical directions inside of the front wall of the system body.

6. Claims 1-3 and 7, as best understood, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Akimoto et al. Akimoto et al shows a transfer system which takes objects from an object carrier (4) which is provided on the top surface of a load port unit, the object transfer system comprising:

Art Unit: 3652

a system body (30);

a linear drive (at 32) which is provided to extend in lateral directions of the system body (1b; note that the term lateral can apply to any horizontal direction as the claim fails to differentiate between lateral and longitudinal directions); and

a processed-object transfer robot (32) which is mounted on at the linear motor and which is capable of linearly reciprocating in the longitudinal directions of the linear motor;

wherein the load port unit (40) is mounted on the outside of a front wall of system body (the front wall being the wall dividing processing section 30 from the loader/unloading section 40; note that the term front wall can apply to any vertical wall of the system body as the claim fails to differentiate between front and side walls) and the linear motor is mounted in vertical directions inside of the front wall of the system body. Akimoto varies from claim 1 by not specifying that the linear drive for transfer robot 32 is a linear motor. Akimoto does state that the other convey motor (50) can comprise a ball screw mechanism, a belt mechanism, a linear motor, an air convey system and the likes, see column 3, lines 14-16. Therefore it would have been obvious to one of ordinary skill in the art to use a linear motor for the linear drive of the convey robot (32) of Akimoto et al, as the reference teaches that a linear motor is one of the basic types of linear drives for convey robots. Akimoto et al has a lower exhaust fan (67) as recited in claim 2 and an upper clean air supply (82), as recited in claim 3. The transfer system of Akimoto et al is used with processing means, as recited in claim 7.

7. Claims 1, 7 and 9, as best understood, are rejected under 35 U.S.C. § 102(e) as being anticipated by Berner et al. Berner et al shows a transfer system comprising:

a system body (at 60);

a linear motor (71/79) which is provided to extend in lateral directions of the system body (60; note that the term lateral can apply to any horizontal direction as the claim fails to differentiate between lateral and longitudinal directions); and

a processed-object transfer robot (62) which is mounted on a primary or secondary side of the linear motor (71/79) and which is capable of linearly reciprocating in the longitudinal directions of the linear motor;

wherein the load port unit (39) is mounted on the outside of a front wall (66) of system body (note that wall 66 extends to adjacent the load ports) and the linear motor (71/79) is mounted in vertical directions inside of the front wall of the system body.

8. Claims 1-3, 7 and 9, as best understood, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Van Doren et al in view of Yoshida et al. Figures 30 and 31 of Van Doren et al show the basic claimed wafer robot mounted on a linear drive (154/156) which has its primary and second sides vertically orientated with opposing faces. It varies from the claims by not showing the robot as loading and unloading a wafer load port. Yoshida et al shows a wafer processing apparatus with a similar robot (31) mounted on a linear drive (32), the linear drive and robot mounted along the front wall of a system body (30) with a load port mounted on the

Art Unit: 3652

outside of the front wall, see figures 4 and 5. It would have been obvious to one of ordinary skill in the art to use the robot of Van Doren et al in a wafer handling load and unload section, as this is a typical use for this type of robot loader, as taught by Yoshida et al. The load and unload section (30) of Yoshida has a fan system (E1) and an air supply system (IN), as recited in claims 2 and 3, and is used with processing means, as recited in claim 7.

9. Claims 4 and 6, as best understood, are rejected under 35 U.S.C. § 103(a) as being unpatentable over WO '333 in view of Ito or Berner et al in view of Ito. WO '333 and Berner et al show the basic claimed transfer system, but vary from the claims by not having an emergency braking system for their linear motors. Ito shows a similar drive system with a brake system, see column 6, lines 19-59. It would have been obvious to one of ordinary skill in the art to modify the linear motor of WO '333 or of Berner et al by providing it with a brake system, for stopping the linear motion of the convey robot upon power loss and when otherwise desired, as taught Ito.

10. Claims 4 and 6, as best understood, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Akimoto et al, as applied above to claim 1, and further in view of Ito. Akimoto et al shows the basic claimed transfer system, but varies from the claims by not having an emergency braking system for the linear motor. Ito shows a similar drive system with a brake system, see column 6, lines 19-59. It would have been obvious to one of ordinary skill in the art to modify the linear motor of Akimoto et al by providing it with a brake system, for stopping the linear motion of the convey robot upon power loss and when otherwise desired, as taught Ito.

11. Claims 4 and 6, as best understood, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Van Doren et al in view of Yoshida et al, as applied above to claim 1, and further in view of Ito. Van Doren et al, as modified, shows the basic claimed transfer system, but varies from the claims by not having an emergency braking system for the linear motor. Ito shows a similar drive system with a brake system, see column 6, lines 19-59. It would have been obvious to one of ordinary skill in the art to modify the linear motor of Van Doren et al by providing it with a brake system, for stopping the linear motion of the convey robot upon power loss and when otherwise desired, as taught Ito.

12. Aoyama, Nishi et al, Frey, Lo et al and Beutler et al are cited as showing wafer transfer robots mounted to move horizontally on linear motors. Katagiri, Markowski et al and Inoue et al show related linear motor structures.


13. Applicant argues in the amendment filed November 14, 2003, that one of ordinary skill in the art would recognize that claim 1 was drawn to a vertically orientated linear motor. However as written it appears to be drawn to any motor with a vertical dimension, as to be confusing. It is noted that claim 9 has this limitation written differently as to imply that applicant may be claiming a more specific structure, and wants coverage with

Art Unit: 3652

claims of different scopes. Applicant also argues in the amendment that the WO '333 is not an anticipation as its motor is supported on the base of the apparatus, and with the rails provided along the base, and does not have the primary and secondary portions of the linear motor extending vertically. However claim 1 does not specify that the linear motor is mounted to the inside wall only that it is mounted inside the front wall. As the motor is mounted inside the system body, it is mounted inside its walls. And, as the motor of WO '333 extends in all three dimensions, it is mounted in vertical directions. Applicant also argues that the reference of Akimoto fails to have a load port mounted to the outside of a front wall and a linear motor mounted in vertical directions. However the load port unit is mounted on the outside of one wall of the system body (30), and that wall can be considered as the front wall, as the claims fail to recite any structure or function relating to the front wall. Note also that the claim recites the load port unit, not the load port, is mounted on the outside of the wall. Again, the linear motor is not recited as mounted to this wall, only inside of the wall. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

14. Any inquiry concerning this communication should be directed to Thomas J. Brahan at telephone number (703) 380-2568. The new fax number for all patent applications is (703) 872-9306. The examiner's supervisor, Eileen Lillis, can be reached at (703) 308-3248.


Thomas J. Brahan
Primary Examiner
Art Unit 3652